Science, Service, Stewardship

NMFS 2012 Salmon Fishery Guidance

California Department of Fish and Game
Salmon Information Meeting
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Preliminary NMFS guidance for salmon stocks off California; final guidance will be provided at the March 2012 Pacific Fishery Management Council meeting.

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FMP Amendment 16 Now In Effect

- Method for determining stock status changed
- Annual catch limits and accountability measures now required
- Modified KRFC de minimis control rule and created one for SRFC

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Determining Stock Status

- No longer using the ~~"overfishing concern"~~

- **Overfishing** (FMP pg. 15)
  - When the maximum fishing mortality threshold (MFMT) is less than or equal to F_{MSY} in a single year
  - F_{MSY} = 0.78 for Chinook

- **Overfished** (FMP pg. 16)
  - When the geometric mean based on the three most recent post-season escapement estimates falls below the stock's minimum stock size threshold (MSST)
  - MSST for KRFC and SRFC = 0.75*S_{MSY}
  - If overfished, a rebuilding plan is required

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Annual Catch Limits – Applied to Stock Complexes

- All salmon stocks need ACLs (exception occurs stocks managed by international fishery agreement)

- ACLs for California stocks will be specified at a complex level, due to data limitations

- Two complexes:
  - **Central Valley Chinook Stock Complex**
    - SRFC – indicator stock, basis of ACL
  - **Southern Oregon Northern California Chinook Stock Complex**
    - KRFC – indicator stock, basis of ACL

- (see FMP pg. 6)

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Annual Catch Limits – Specification

- Fits into the existing preseason process
- Spawning escapement based ACLs (S_{ACL})
- Preseason ACLs (FMP pg. 29)
  - The fishery must be designed to result in an expected escapement greater than or equal to the preseason S_{ACL}
  - Based on the pre-season forecast
- Postseason ACLs (FMP pg. 29)
  - Determined annually using actual / realized escapement
  - Noncompliance = if escapement fell below S_{ACL} in a year AMs would be triggered
    - **This is NOT the basis for stock status determination**

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Example of ACL Specification Process

- **March 2012**
  - STT calculates the **2012 preseason ACL** for the 2012 fishing season based on 2012 escapement forecast
- **Jan-Feb 2013**
  - STT estimates actual escapement & calculates the **2012 postseason ACL**
  - If non-compliance with the **2012 postseason ACL**, accountability measures (AMs) would be considered and implemented in the 2013 fishing year.
- **March 2013**
  - STT calculates the **2013 preseason ACLs** for the 2013 fishing year based on 2013 escapement forecast.

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Accountability Measures (AMs)

- **Post-season AMs** implemented through the assessment and review phases of the salmon management process:
  - Salmon Methodology Review Process
    - Modify reference points, models, etc., if needed
  - Annual SAFE (Review of Ocean Salmon Fisheries)
    - present post-season assessment of objectives and performance
  - Notify state, tribal, and federal managers of the situation
  - (FMP pgs. 29-30)

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Central Valley Chinook Stock Complex -
Sacramento River Fall Chinook

SRFC Overfished:

•Determined overfished when the 3-year geometric mean of annual spawning escapement falls below the stock's MSST

•**MSST:** defined as 0.75 * S_{MSY}

Approximate annual escapement of SRFC natural & hatchery adult spawners:

- 2009: 40,873 (lowest escapement on record)
- 2010: 124,270(managed to achieve 180,000; exceeds the lower end of escapement goal range)
- 2011: 114,700

The current geometric mean is 83,530, which is below the stock's MSST of 91,500 hatchery and natural area adult spawners

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Sacramento River Fall Chinook

SRFC Overfished:

- A rebuilding plan must be prepared and implemented within two years of overfished determination

- Goal is to rebuild the stock to S_{MSY}

- The STT will provide recommendations & alternatives for rebuilding in preseason-1 report

- NMFS recommends that the council analyze the alternatives as part of the preseason process

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Sacramento River Fall Chinook

2012 SRFC Management:

- The conservation objective for SRFC is an escapement goal range of 122,000 - 180,000 natural and hatchery adult spawners

- However, Amendment 16 requires setting ACLs

- Fishery management must result in spawning escapement greater than or equal to the preseason S_{ACL} **- the 2012 preseason S_{ACL} is 245,820 natural and hatchery adult spawners**

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Sacramento River Fall Chinook

NMFS 2012 SRFC Guidance:

- Fishery management measures for 2012 must be designed for the Central Valley Chinook Stock Complex (CVC) to result in an expected spawning escapement greater than or equal to its preseason S_{ACL}, which is based on SRFC as the indicator stock

- The 2012 preseason S_{ACL} for the CVC Complex is 245,820 SRFC natural and hatchery adult spawners. Because of the large SRFC abundance forecast for 2012, the preseason S_{ACL} is expected to be above the SRFC conservation objective. **Therefore, the 2012 fishery must be designed to ensure escapement of 245,820 SRFC natural and hatchery adult spawners**

- NMFS also recommends that the Council consider rebuilding plan alternatives presented by the STT as part of the overall preseason process. The analysis of alternatives should assess the prospects of each alternative for achieving rebuilding in as short a time as possible

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Southern Oregon/Northern California Chinook Stock Complex -

Klamath River Fall Chinook

KRFC not overfished/no overfishing:

Approximate annual escapement of KRFC natural area adult spawners:

2009: 44,400

2010: 37,200

2011: 47,800

- The geometric mean (2009-2011) is 42,898, which exceeded both the MSST threshold (30,525) and the MSY spawner escapement level
- The exploitation rate is 0.42, which is lower than MFMT (0.71)
- Currently, KRFC is not overfished and is not experiencing overfishing

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Klamath River Fall Chinook

2012 KRFC Management:

•The conservation objective for KRFC is a spawner reduction rate of no more than 68 percent, while achieving a minimum of 40,700 naturally spawning adults in any single year

•However, Amendment 16 requires setting ACLs

•Fishery management must result in spawning escapement greater than or equal to the preseason S_{ACL} - **the preseason S_{ACL} for the KRFC is 86,288 natural area adult spawners.**

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Klamath River Fall Chinook

NMFS 2012 KRFC Guidance:

•For 2012, fishery management measures must be designed to result in an expected spawning escapement for the SONCC Stock Complex greater than or equal to its preseason S_{ACL}, which is based on KRFC as the indicator stock

•The preseason S_{ACL} for the SONCC Complex is 86,288 KRFC natural area adult spawners

•In 2012, the S_{ACL} exceeds the KRFC conservation objective (S_{MSY}) due to a very high abundance forecast. **Therefore, the 2012 fishery must be designed to ensure escapement of 86,288 KRFC natural area adult spawners**

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Endangered Species Act (ESA) Listed Stocks

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Sacramento River Winter Chinook

- ESA – Endangered
- Jeopardy Biological Opinion completed on April 30, 2010.
- RPA calls for a new framework for managing fishery impacts on winter-run by the start of the 2012 fishing year.
- Guidance for 2012 (and beyond) includes continuation of previous consultation standards on minimum size limits and seasonal windows, as well as an impact rate cap (preseason impact rate prediction not to be exceeded) on age-3 winter-run using the newly developed winter-run harvest model (WRHM) during relatively low abundances.
- Impact rate cap for 2012 – 13.7%

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Sacramento Winter Chinook (cont.)

– 2012 guidance includes season restrictions and size limits south of Point Arena, in addition to impact rate restrictions.

Fishery	Location	Shall Open No Earlier Than:	Shall Close No Later Than:	Minimum Total Size Limit Shall be at Least:
Recreational	Between Point Arena and Pigeon Point	1st Saturday in April	2nd Sunday in November	20 inches (April 2012 size limit must be 24-inches)
	Between Pigeon Point and the U.S.-Mexico Border	1st Saturday in April	1st Sunday in October	
Commercial	Between Point Arena and the U.S.-Mexico Border*	May 1	September 30	26 inches
	**Exception: Between Point Reyes and Point San Pedro, there may be an October fishery conducted Monday through Friday, but shall end no later than October 15.*			

- Circle hook restrictions while mooching in the recreational fishery between Horse Mountain and Point Conception should continue.

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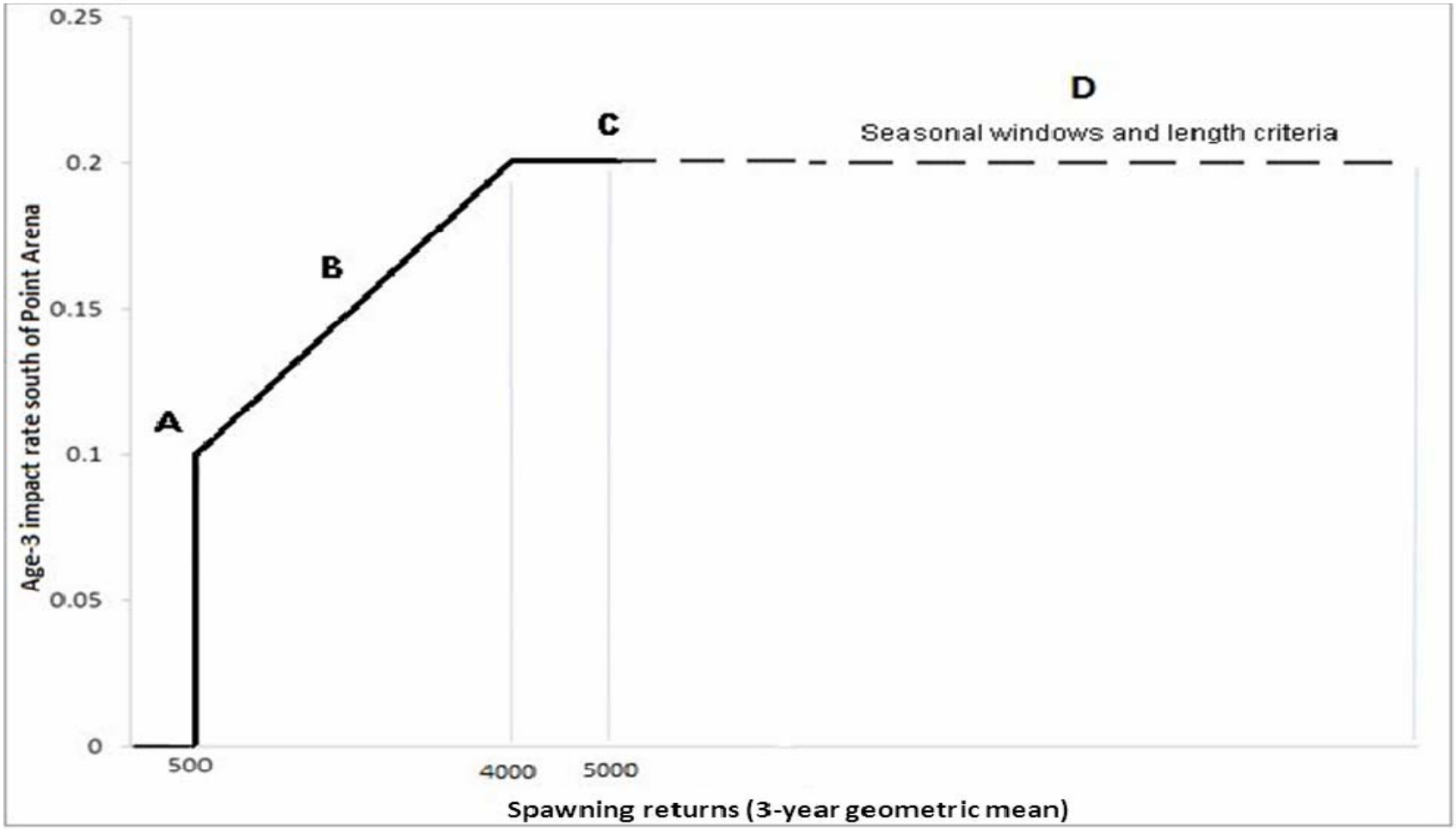
Winter-run Management Framework



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Framework Key Points

Geometric mean of last 3-years of spawning escapement:

- 2009: 4,537
- 2010: 1,596 = 1797
- 2011: 824

- WRHM only models impacts to winter-run south of Point Arena – winter-run impact rate management will affect southern fisheries.

- WRHM is similar to other harvest models for Klamath and Sacramento Chinook.

- NMFS considered a variety of sources in developing the framework including:
  - winter-run abundance and trend data;
  - simulation and harvest management strategy evaluations (MSE);
  - published viability criteria for Central Valley salmon (Lindley *et al*. 2007);
  - precautionary principals associated with an endangered salmonid species.

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Central Valley Spring Chinook

- ESA – Threatened
- 2000 Biological Opinion states that regulations under the Salmon FMP and Biological Opinion for Sacramento River Winter Chinook provide sufficient protection for this stock.
- Abundance trends (combined spawning escapement to Deer, Mill, Butte Creeks)
  - Increased significantly between 2001 and 2005, but have declined since. Slight increase in returns during 2011.
- NMFS concludes the new management framework and 2012 guidance for Sacramento winter run, and other regulatory measures in the salmon FMP provides sufficient protection for this stock in the 2012 fishing year.

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California Coastal Chinook

- ESA – Threatened
- 2000 Biological Opinion
- Indicator stock – Klamath River Fall Chinook (KRFC); limits on KRFC age-4 ocean harvest rates serve as the consultation standard
- Conservation objective: management measures shall result in a forecast KRFC age-4 ocean harvest rate of no greater than 16%

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Coho

Central California Coastal (CCC) Coho

- ESA – Endangered
- Little information on past harvest rates or current hooking mortality, incidental to Chinook fisheries
- In the absence of more specific information, prohibit coho-directed fisheries and coho retention in Chinook-directed fisheries off California

Southern Oregon/Northern California Coastal Coho (SONCC Coho)

- ESA – Threatened
- Indicator stock – the Rogue/Klamath coho hatchery stock
- 1999 supplemental Biological Opinion:
  - No more than a 13.0% ocean exploitation rate on Rogue/Klamath coho hatchery stocks